Application No. 10/065,217
Docket No. 17MY-7239
Amendment dated June 7, 2006
Submission Accompanying RCE under 37 CFR §1.114

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently amended): A castable weldable nickel-base alloy consisting essentially of, by weight, 18% to 20% cobalt, 22.2% to 22.8% chromium, 1.8% to 2.2% tungsten, 1.6% to 2.3% aluminum, 1.6% to 2.4% titanium, the sum of aluminum and titanium being 2.8% to 3.89%, ~~3.9,~~ 0.7% to 0.9% columbium, 1.61% to 1.63% ~~0.9% to 1.9%~~ tantalum, 0.003% to 0.009% boron, 0.002% to 0.02% zirconium, 0.05% to 0.10% carbon, with the balance essentially nickel and incidental impurities.

Claim 2 (Currently amended): The alloy according to claim 1, wherein the sum of aluminum and titanium is about 2.97%. ~~the tantalum content is above 1.5%.~~

Claim 3 (Currently amended): The alloy according to claim 1, wherein the aluminum content is about 2.21%. ~~the alloy has been solution~~

~~heat treated at about 1150°C for about four hours, quenched to below about 700°C, and then aged at about 800°C for about eight hours.~~

Claim 4 (Original): The alloy according to claim 1, wherein the alloy contains about 26 to about 38 volume percent of a gamma-prime precipitate phase.

Claim 5 (Original): The alloy according to claim 1, wherein the alloy is in the form of a cast nozzle of a gas turbine engine.

Claim 6 (Original): The alloy according to claim 1, wherein the nozzle is installed in a second turbine stage of the gas turbine engine.

Claim 7 (Currently amended): The alloy according to claim 1, wherein the sum of aluminum and titanium is about 3.54%. ~~the alloy contains, by weight, about 19% cobalt, about 22.5% chromium, about 2% tungsten, 1.7% to 1.8% aluminum, about 2% titanium, the sum of aluminum and titanium being 3.7% to 3.8%, about 0.8% columbium, about 1.5% tantalum, about 0.005% boron, about 0.005% zirconium, about 0.07% carbon, with the balance essentially nickel and incidental impurities.~~

Claim 8 (Original): The alloy according to claim 7, wherein the alloy is in the form of a cast nozzle of a gas turbine engine.

Claim 9 (Original): The alloy according to claim 7, wherein the nozzle is installed in a second turbine stage of the gas turbine engine.

Claim 10 (Currently amended): A nozzle installed in a second turbine stage of the gas turbine engine and cast from a nickel-base alloy consisting of, approximately by weight, 18.76% to 18.84% ~~18% to 20%~~ cobalt, 22.59% to 22.90% ~~22.2% to 22.8%~~ chromium, 1.99% ~~1.8% to 2.2%~~ tungsten, 1.24% to 2.26% ~~1.6% to 2.3%~~ aluminum, 1.68% to 2.30% ~~1.6% to 2.4%~~ titanium, the sum of aluminum and titanium being 2.97% to 3.89%, ~~2.8% to 3.9%,~~ 0.78% ~~0.7% to 0.9%~~ columbium, 1.61% to 1.63% ~~0.9% to 1.9%~~ tantalum, 0.003% to 0.009% boron, 0.002% to 0.02% zirconium, 0.05% to 0.10% carbon, with the balance essentially nickel and incidental impurities.

Claim 11 (Currently amended): A castable weldable nickel-base alloy consisting essentially of, by weight, 5% to 8% cobalt, 22.2% to 22.8% chromium, 1.8% to 2.2% tungsten, 1.44% to 2.24% ~~1.2% to 2.3%~~ aluminum, 1.6% to 2.4% titanium, the sum of aluminum and titanium being 3.05% to

3.84%, ~~2.8% to 3.9%,~~ 0.7% to 0.9% columbium, 0.9% to 1.9% tantalum, 0.003% to 0.009% boron, 0.002% to 0.02% zirconium, 0.05% to 0.10% carbon, with the balance essentially nickel and incidental impurities.

Claim 12 (Currently amended): The alloy according to claim 11, wherein the sum of aluminum and titanium is about 3.05%. ~~the tantalum content is about 1.5% and the aluminum content is about 1.85%.~~

Claim 13 (Currently amended): The alloy according to claim 11, wherein the aluminum content is about 2.24%. ~~the alloy has been solution heat treated at about 1150°C for about four hours, quenched to below about 700°C, and then aged at about 800°C for about eight hours.~~

Claim 14 (Original): The alloy according to claim 11, wherein the alloy contains about 23 to about 36 volume percent of a gamma-prime precipitate phase.

Claim 15 (Original): The alloy according to claim 11, wherein the alloy is in the form of a cast nozzle of a gas turbine engine.

Claim 16 (Original): The alloy according to claim 11, wherein the nozzle is installed in a third turbine stage of the gas turbine engine.

Claim 17 (Currently amended): The alloy according to claim 11, wherein the sum of aluminum and titanium is about 3.62%. ~~the alloy contains, by weight, about 6.5% cobalt, about 22.5% chromium, about 2% tungsten, about 1.85% aluminum, about 2% titanium, the sum of aluminum and titanium being 3.7% to 3.8%, about 0.8% columbium, about 1.5% tantalum, about 0.005% boron, about 0.005% zirconium, about 0.07% carbon, with the balance essentially nickel and incidental impurities.~~

Claim 18 (Currently amended): The alloy according to claim 13, ~~claim 17,~~ wherein the alloy is in the form of a cast nozzle of a gas turbine engine.

Claim 19 (Currently amended): The alloy according to claim 13, ~~claim 17,~~ wherein the nozzle is installed in a third turbine stage of the gas turbine engine.

Claim 20 (Currently amended): A nozzle installed in a second turbine

stage of the gas turbine engine and cast from a nickel-base alloy consisting of, approximately by weight, 6.47% to 6.61% ~~5% to 8%~~ cobalt, 22.33% to 22.67% ~~22.2% to 22.8%~~ chromium, 1.96% to 1.97% ~~1.8% to 2.2%~~ tungsten, 1.24% to 1.44% ~~1.2% to 2.3%~~ aluminum, 1.60% to 2.18% ~~1.6% to 2.4%~~ titanium, the sum of aluminum and titanium being 3.05% to 3.84%, ~~2.8% to 3.9%,~~ 0.78% ~~0.7% to 0.9%~~ columbium, 1.56% to 1.57% ~~0.9% to 1.9%~~ tantalum, 0.003% to 0.009% boron, 0.002% to 0.02% zirconium, 0.05% to 0.10% carbon, with the balance essentially nickel and incidental impurities.

Claim 21 (New): The nozzle according to claim 10, wherein the aluminum content is 1.75%.

Claim 22 (New): The nozzle according to claim 10, wherein the sum of aluminum and titanium is 2.97% to 3.54%.

Claim 23 (New): The nozzle according to claim 10, wherein the sum of aluminum and titanium is about 2.97%.

Claim 24 (New): The nozzle according to claim 10, wherein the aluminum content is about 2.21%.

Claim 25 (New): The nozzle according to claim 10, wherein the aluminum content is about 2.21%.

Claim 26 (New): The nozzle according to claim 10, wherein the sum of aluminum and titanium is about 3.54%.

Claim 27 (New): The nozzle according to claim 10, wherein the alloy contains about 26 to about 38 volume percent of a gamma-prime precipitate phase.

Claim 28 (New): The nozzle according to claim 20, wherein the sum of aluminum and titanium is 3.05% to 3.62%.

Claim 29 (New): The nozzle according to claim 20, wherein the sum of aluminum and titanium is about 3.05%.

Claim 30 (New): The nozzle according to claim 20, wherein the aluminum content is about 2.24%.

Claim 31 (New): The nozzle according to claim 20, wherein the sum

of aluminum and titanium is about 3.62%.

Claim 32 (New): The nozzle according to claim 20, wherein the alloy contains about 26 to about 38 volume percent of a gamma-prime precipitate phase.